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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/082,836	02/25/2002	Masahiko Yukawa.	09792909-5346	1041

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EXAMINER
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DANIELS, ANTHONY J

ART UNIT	PAPER NUMBER
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2622

MAIL DATE	DELIVERY MODE
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09/21/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	Application No. 10/082,836	Applicant(s) YUKAWA ET AL.	
	Examiner Anthony J. Daniels	Art Unit 2622	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 23 July 2007.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                  | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Response to Amendment*

1. The amendment, filed 7/23/2007, has been entered and made of record. Claims 1-10 are pending in the application.

### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. Claims 1,5 and 10 are rejected under 35 U.S.C. 102(b) as being anticipated by Watanbe et al. (Japanese Publication Number: H09-055487).

As to claim 1, Watanbe et al. teaches a solid-state image pickup device (Drawings 1,2 and 3) comprising: a circuit board (Drawings 2 and 3, circuit board “22”) having an opening (Drawing 2, opening aperture “23”); a sensor package (Drawing 2 and 3, solid-state image sensor package “20”; [0016], Lines 1-6) in which a chip of a solid-state image pickup element with a light-receiving surface is placed (Drawing 2 and 3, sensor chip “11”; Drawing 1, light-receiving side “12”), the sensor package disposed at one surface of the circuit board so that the light-receiving surface of the chip of the solid-state image pickup element opposes the opening of the circuit board (Drawing 3); a seal adhered to the sensor package for sealing in the solid-state image pickup element (Drawings 2 and 3, transparence plate “19” in opening “23” of circuit board “22”); and an optical unit disposed at the other surface of the circuit board so that incident

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light is focused on the light-receiving surface (Drawings 2 and 3, lens unit “25”); wherein the circuit board is disposed between the sensor package and the optical unit (Drawing 3), the circuit board has substantially flat surfaces (Drawing 2), the solid-state image pickup element is disposed on a surface of the sensor package (Drawing 3), and the seal is placed within the opening of the circuit board (Drawing 3).

As to claim 5, Watanbe et al. teaches a method of producing a solid-state image pickup device (Drawings 1,2 and 3) comprising the steps of: providing a circuit board with an opening (Drawings 2 and 3, circuit board “22” with opening aperture “23”); joining a sensor package (Drawing 2 and 3, solid-state image sensor package “20”; [0016], Lines 1-6), in which a chip of a solid-state image pickup element has been previously sealed (Drawing 1, sensor chip “11”), to one surface of the circuit board so that a light-receiving surface of the chip of the solid-state image pickup element opposes the opening of the circuit board (Drawing 3; Drawing 1, light-receiving side “12”); and disposing and joining an optical unit at and to the other surface of the circuit board so that incident light is focused on the light-receiving surface (Drawing 3, optical unit “25”), wherein, the circuit board is disposed between the sensor package and the optical unit, the circuit board has substantially flat surfaces (Drawing 3), and the solid-state image pickup element is disposed on a surface of the sensor package (Drawing 1).

As to claim 10, Watanbe et al. teaches a method of producing a solid-state image pickup device according to Claim 5, further comprising placing a seal adhered to the sensor package within the opening of the circuit board (Drawings 2 and 3, transparence plate “19” in opening “23” of circuit board “22”).

***Claim Rejections - 35 USC § 103***

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 2,3,6 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Watanbe et al. (Japanese Publication Number: H09-055487) in view of Ackland et al. (Non-Patent Literature).

As to claim 2, Watanbe et al. teaches a solid-state image pickup device of claim 1. The claim differs from Watanbe et al. in that it further requires that the sensor package include a signal processing circuit for processing a signal of the solid-state image pickup element.

In the same field of endeavor, Ackland et al. teaches a signal processing circuit on the same chip as the sensor package (see Figure 1: Conventional Multimedia camera). In light of the teaching of Ackland et al., it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the sensor Watanbe et al. to include the signal processing

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circuitry of Ackland et al. Such a modification would allow for all of the processing to be done on a single chip; consequently, consuming less power and minimizing the space taken up on the circuit board.

As to claim 3, the limitations of claim 3 can be found in claim 2. Therefore, claim 3 is analyzed and rejected as previously discussed with respect to claim 2.

As to claims 6 and 7, claims 6 and 7 are method claims corresponding to the apparatus claims 2 and 3, respectively. Therefore, claims 6 and 7 are analyzed and rejected as previously discussed with respect to claims 2 and 3, respectively.

2. Claims 4 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Watanbe (Japanese Publication Number: H09-055487) in view of Tullis (US # 6,535,243).

As to claim 4, Watanbe et al. teaches a solid-state image pickup device of claim 1. The claim differs from Watanbe et al. in that it further requires that the circuit board be connected to an external device without a connector.

In the same field of endeavor, Tullis teaches a connection between a computer and a digital camera via a wireless link (see Abstract, Lines 1-4; Figure 1; Col. 3, Lines 62-67). In light of the teaching of Tullis, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of Watanbe, to include a wireless link to an external device. Such a modification would save space on the circuit board due to the smaller size of antennas to connectors.

As to claim 8, claim 8 is a method claim corresponding to the apparatus claim 4. Therefore, claim 8 is analyzed and rejected as previously discussed with respect to claim 4.

3. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Watanbe et al. (Japanese Publication Number: H09-055487).

As to claim 9, Watanbe et al. teaches a solid-state image pickup device according to Claim 1. Although Watanbe et al. does not state explicitly that the transperence plate is made of glass, **Official Notice** is taken that implementing plates made of glass to cover image sensors is well known and expected in the art. One of ordinary skill in the art would have been motivated to so this, because glass plates are sufficiently transparent and effectively keep dust and other particles off the image sensor.

### *Conclusion*

1. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anthony J. Daniels whose telephone number is (571) 272-7362. The examiner can normally be reached on 8:00 A.M. - 5:30 P.M..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lin Ye can be reached on (571) 272-7372. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

AD  
9/13/2007

  
TUAN HO  
PRIMARY EXAMINER